

**REMARKS**

Applicant hereby responds to Final Office Action of April 4, 2007, in the above-referenced patent application. Claims 22-39 are pending in the above-referenced patent application. Claims 1-21 were withdrawn from consideration by the Examiner.

As discussed below, generic claims 22-39 are believed allowable. Accordingly, rejoinder and allowance of the withdrawn claims 1-21 are respectfully requested.

Applicant further notes that the Election/Restriction Requirement dated December 13, 2005 was improper because PCT rules were relied upon to make the Election/Restriction Requirement while the present application is *not* an international application.

Applicant respectfully requests the Examiner indicate acceptance of the formal drawings filed July 10, 2003.

Claims 22-33, 36 and 39 were rejected under 35 USC 103(a) as being unpatentable over Kusakabe et al, US 2005/0031223 A1 (hereinafter "Kusakabe"). Claims 34, 35, 37 and 38 were objected to as being dependent on a rejected base claim, but were deemed allowable if rewritten in independent form including limitations of the base claim and any intervening claims.

Applicant wishes to thank the Examiner for detailing the allowable claims. Claims 34, 35, 37 and 38 have been rewritten in independent form including all of the limitations of the base claim and any intervening claims, and thus are in condition of allowance. New matter has not been added.

Rejection of claims 22-33, 36 and 39 under 35 USC 103(a) as being unpatentable over Kusakabe is respectfully traversed because, for at least the following reasons, Kusakabe does not teach or suggest all of the limitations of each claim.

The claimed invention is directed to a device and method for reducing “ringing artifacts” in an input image. Independent claim 22 requires, in part, “a ringing-artifact detector that detects areas of ringing artifacts,” “an image processor that processes window pixels to generate pixels with reduced ringing artifacts,” and “a combiner” to generate an output image according to a certain algorithm. Independent claim 39 has similar limitations. Kusakabe, by contrast, fails to show or suggest at least the above-mentioned limitations.

Kusakabe is directed to an image processing apparatus that removes *conspicuous noise* contained in an image. As the Examiner also states, Kusakabe does not teach or suggest ringing artifacts. In addition, the conspicuous noise in Kusakabe, caused by solid-state sensing elements, dark current, etc. (*see, e.g.*, Kusakabe, Para [0003] and [0004]), is different from “ringing artifacts,” the latter typically resulting from an image processing procedure (such as compression). As such, when dealing with “ringing artifacts” in the claimed invention, the processes and devices (such as detectors, processors, and combiners) include features not disclosed or suggested by Kusakabe, which deals with *conspicuous noise*. This is further evident from Kusakabe, wherein paragraph [0002] describes:

...The characteristics of noise to be removed are diverse depending on their generation factors, and noise removal methods *suited to those characteristics* have been proposed.

Thus, the methods, the devices, and the algorithms in Kusakabe are *noise-specific, i.e.*,

different for different noise types. The “ringing artifacts” are not mentioned or taught by Kusakabe as noise. Accordingly, contrary to the Examiner’s assertions, arriving at “ringing artifacts” removal is *not* obvious from noise removal in Kusakabe.

Further, the instant Office Action does not supply a proper suggestion or motivation to modify the noise-specific device in Kusakabe to arrive at the claimed invention. As discussed above, Kusakabe is directed to specific types of noise without teaching or suggesting “ringing artifacts” removal. Thus, there is no motivation to modify the *noise*-specific devices in Kusakabe to deal with “ringing artifacts” that are different from the conspicuous noise taught by Kusakabe. If, on the other hand, the Examiner has equated “ringing artifacts” to noise based on her personal knowledge, an affidavit is respectfully requested under 37 CFR 1.104(d)(2).

Furthermore, Kusakabe teaches away from the claimed limitations because Kusakabe’s noise removal in fact introduces adverse effects of blurring, whereas the claimed invention reduces ringing artifacts. *See, e.g.*, Para [0092] of Kusakabe, wherein it is clearly described that after application of Kusakabe’s noise removal process, adverse effects may be introduced depending on the resolution upon displaying or printing a noise-removed output image.

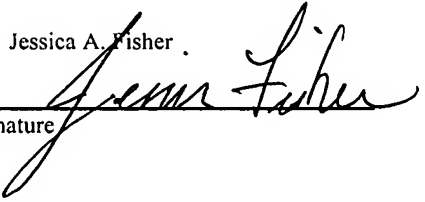
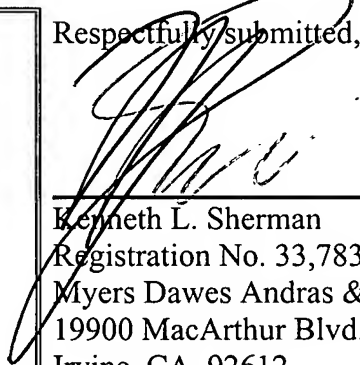
As such, none of the claimed limitations which the Examiner concludes as obvious to one of ordinary skill in the art (without support in qualified prior art or otherwise) is suggested by Kusakabe or is known to one of ordinary skill in the art. No motivation is suggested by Kusakabe for the modifications proposed by the Examiner. Indeed, Kusakabe teaches away from the claimed invention and from the proposed modifications by the Examiner.

In view of the above, Kusakabe fails to teach or suggest at least the claimed invention as recited in independent claims 22 and 39 of the present application. In addition, the rejection is improper because not only there is no motivation to modify Kusakabe to arrive at the claimed invention, Kusakabe actually teaches away from the invention. Thus, independent claims 22 and 39 are patentable over Kusakabe for at least the reasons set forth above. Dependent claims 23-33 and 36 are allowable for at least the same reasons. Accordingly, withdrawal of the rejection of claims 22-39 and rejoinder of withdrawn claims 1-21 are respectfully requested.

**CONCLUSION**

For these, and other, reasons, Applicants believe that the claims are in condition for allowance. Reconsideration, re-examination, and allowance of all claims are respectfully requested.

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<b><u>CERTIFICATE OF MAILING</u></b>	
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MS AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on: May <u>27</u> , 2007.	
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